

Appln No. 10/810,271
Amdt date March 22, 2006
Reply to Office action of September 23, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Cancelled)

Claim 2. (Currently Amended) The method of claim ~~[[1]]~~10 wherein the signal error output relates to Mean Squared Error (MSE).

Claim 3. (Currently Amended) The method of claim ~~[[1]]~~10 wherein the FEC output relates to bit error rate.

Claim 4. (Currently Amended) The method of claim ~~[[1]]~~10 wherein the FEC output relates to bit error count.

Claims 5-9. (Cancelled)

Claim 10. (Currently Amended) ~~The method of claim 6~~ A method for performing adaptive equalization comprising:

receiving a Forward Error Correction (FEC) encoded signal from a channel;

filtering the received FEC encoded signal using a filter according to at least one adjustable filter coefficient to produce a filtered signal;

evaluating the filtered signal to generate a signal error output;

adjusting the at least one adjustable filter coefficient in response to the signal error output;

performing FEC decode processing dependent on the filtered signal to generate an FEC output;

adjusting the at least one adjustable filter coefficient in response to the FEC output;

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wherein the at least one adjustable filter coefficient is first adjusted in response to the signal error output, then adjusted in response to the FEC output;

wherein the at least one adjustable filter coefficient is first adjusted in response to the signal error output until a specified condition is met, then adjusted in response to the FEC output; and

wherein the specified condition relates to an error measure varying less than a predetermined amount in N iterations of adjusting the at least one adjustable filter coefficient, where N is a positive integer.

Claim 11. (Cancelled)

Claim 12. (Currently Amended) The method of claim ~~[[1]]~~10 wherein the at least one adjustable filter coefficient is selectively adjusted in response to the signal error output of the FEC output.

Claim 13. (Original) The method of claim 12 wherein the selective adjustment in response to the signal error output or the FEC output is selected based on a measurement of time-dependent variation of the channel.

Claim 14. (Cancelled)

Claim 15. (Currently Amended) ~~The method of claim 14~~ A method for performing adaptive equalization comprising:

receiving a Forward Error Correction (FEC) encoded signal from a channel;

filtering the received FEC encoded signal using a filter according to at least one adjustable filter coefficient to produce a filtered signal;

evaluating the filtered signal to generate a signal error output;

adjusting the at least one adjustable filter coefficient in response to the signal error output;

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performing FEC decode processing dependent on the filtered signal to generate an FEC output;

adjusting the at least one adjustable filter coefficient in response to the FEC output;

further comprising:

generating a plurality of symbols from the filtered signal based on a symbol decision clock and a symbol decision threshold, wherein the FEC decode processing is performed on the symbols;

adjusting the symbol decision clock in response to the signal error output;

and

adjusting the symbol decision clock in response to the FEC output.

Claim 16. (Currently Amended) ~~The method of claim 14~~ A method for performing adaptive equalization comprising:

receiving a Forward Error Correction (FEC) encoded signal from a channel;

filtering the received FEC encoded signal using a filter according to at least one adjustable filter coefficient to produce a filtered signal;

evaluating the filtered signal to generate a signal error output;

adjusting the at least one adjustable filter coefficient in response to the signal error output;

performing FEC decode processing dependent on the filtered signal to generate an FEC output;

adjusting the at least one adjustable filter coefficient in response to the FEC output;

further comprising generating a plurality of symbols from the filtered signal based on a symbol decision clock and a symbol decision threshold, wherein the FEC decode processing is performed on the symbols;

adjusting the symbol decision threshold in response to the signal error output; and

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adjusting the symbol decision threshold in response to the FEC output.

Claims 17-19. (Cancelled)

Claim 20. (Currently Amended) The apparatus of claim ~~[[19]]~~28 wherein the signal error output relates to Mean Squared Error (MSE).

Claim 21. (Currently Amended) The apparatus of claim ~~[[19]]~~28 wherein the FEC output relates to bit error rate.

Claim 22. (Currently Amended) The apparatus of claim ~~[[19]]~~28 wherein the FEC output relates to bit error count.

Claims 23-27. (Cancelled)

Claim 28. (Currently Amended) ~~The apparatus of claim 24~~ An apparatus for performing adaptive equalization comprising:

a filter capable of filtering a Forward Error Correction (FEC) encoded signal received from channel according to at least one adjustable filter coefficient to produce a filtered signal;

an error detector adapted to evaluate the filtered signal to generate a signal error output;

an FEC decoder adapted to perform FEC decode processing dependent on the filtered signal to generate an FEC output;

a controller for adjusting the at least one adjustable filter coefficient in response to the signal error output and adjusting the at least one adjustable filter coefficient in response to the FEC output;

wherein the controller is adapted to first adjust the at least one adjustable filter coefficient in response to the signal error output, then adjust the at least one adjustable filter coefficient in response to the FEC output;

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wherein the controller is adapted to first adjust the at least one adjustable filter coefficient in response to the signal error output until a specified condition is met, then adjust the at least one adjustable filter coefficient in response to the FEC output; and

wherein the specified condition relates to an error measure varying less than a predetermined amount in N iterations of adjusting the at least one adjustable filter coefficient, where N is a positive integer.

Claim 29. (Cancelled)

Claim 30. (Currently Amended) The apparatus of claim ~~[[19]]~~28 wherein the controller is adapted to selectively adjust the at least one adjustable filter coefficient in response to the signal error output or the FEC output.

Claim 31. (Original) The apparatus of claim 30 wherein the controller selects to adjust the at least one filter coefficient in response to the signal error output or the FEC output based on a measurement of time-dependent variation of the channel.

Claim 32. (Cancelled)

Claim 33. (Currently Amended) ~~The apparatus of claim 32~~ An apparatus for performing adaptive equalization comprising:

a filter capable of filtering a Forward Error Correction (FEC) encoded signal received from channel according to at least one adjustable filter coefficient to produce a filtered signal;

an error detector adapted to evaluate the filtered signal to generate a signal error output;

an FEC decoder adapted to perform FEC decode processing dependent on the filtered signal to generate an FEC output;

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a controller for adjusting the at least one adjustable filter coefficient in response to the signal error output and adjusting the at least one adjustable filter coefficient in response to the FEC output;

further comprising a decision element for generating a plurality of symbols from the filtered signal based on a symbol decision clock and a symbol decision threshold, wherein the FEC decoder is adapted to perform FEC decode processing on the generated symbols; and

wherein the symbol decision clock is capable of being adjusting in response to the signal error output and adjusted in response to the FEC output.

Claim 34. (Currently Amended) ~~The apparatus of claim 32~~ An apparatus for performing adaptive equalization comprising:

a filter capable of filtering a Forward Error Correction (FEC) encoded signal received from channel according to at least one adjustable filter coefficient to produce a filtered signal;

an error detector adapted to evaluate the filtered signal to generate a signal error output;

an FEC decoder adapted to perform FEC decode processing dependent on the filtered signal to generate an FEC output;

a controller for adjusting the at least one adjustable filter coefficient in response to the signal error output and adjusting the at least one adjustable filter coefficient in response to the FEC output;

further comprising a decision element for generating a plurality of symbols from the filtered signal based on a symbol decision clock and a symbol decision threshold, wherein the FEC decoder is adapted to perform FEC decode processing on the generated symbols; and

wherein the symbol decision threshold is capable of being adjusted in response to the signal error output and adjusted in response to the FEC output.

Claims 35-37. (Cancelled)